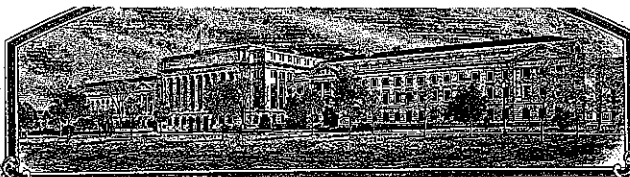


No.

9900315



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Syngenta Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

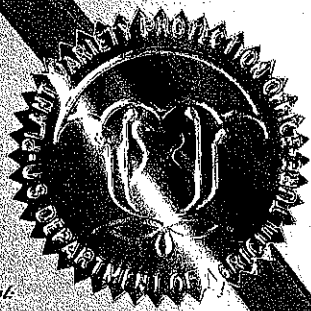
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY, AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (24 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'S42-H1'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this nineteenth day of July, in the year two thousand two.

Attest:

Paul M. Jank

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Paul F. Gorman

Secretary of Agriculture

2 U.S. DEPARTMENT OF AGRICULTURE
SCIENCE AND TECHNOLOGY - AGRICULTURAL MARKETING SERVICE
PLANT VARIETY PROTECTION OFFICE

The following state rents are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <u>Novartis Seeds, Inc. (Currently Syngenta Seeds, Inc.)</u> <u>AT 3/26/2002</u>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <u>X9842, J335752</u>		3. VARIETY NAME <u>S42-H1</u>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <u>P.O. Box 959</u> <u>Minneapolis, MN 55440</u>		5. TELEPHONE (include area code) <u>612-593-7333</u>		FOR OFFICIAL USE ONLY PVPO NUMBER <u>99003/5</u> FILING DATE <u>5/21/1999</u>	
		6. FAX (include area code) <u>612-593-7801</u>			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <u>Corporation</u>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <u>Delaware</u>		9. DATE OF INCORPORATION <u>1976</u>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <u>John C. Thorne</u> <u>Novartis Seeds, Inc. (Currently: Syngenta Seeds, Inc.)</u> <u>P.O. Box 949</u> <u>Washington, Iowa 52353</u> <u>AT: 3/26/2002</u>					FILING AND EXAMINATION FEES: <u>\$2450.00</u> DATE <u>5/21/1999</u> CERTIFICATION FEE: <u>\$320.00</u> DATE <u>5/6/02</u>
11. TELEPHONE (Include area code) <u>319-653-2181</u>		12. FAX (Include area code) <u>319-653-4609</u>		13. E-MAIL <u>john.thorne@seeds.novartis.com</u>	
14. CROP KIND (Common Name) <u>Soybean</u>		15. GENUS AND SPECIES NAME OF CROP <u>Glycine max</u>		16. FAMILY NAME (Botanical) <u>Leguminosae</u>	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act. <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER <u>John C. Thorne</u>		SIGNATURE OF OWNER			
NAME (Please print or type) <u>John C. Thorne</u>		NAME (Please print or type)			
CAPACITY OR TITLE <u>Director, Soybean Breeding</u>		DATE <u>5-5-99</u>		CAPACITY OR TITLE <u>1</u>	
DATE		DATE		DATE	

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

CASE NUMBER 2085

U.S. PATENT DESIGNATION J335752

FILING DATE 02-12-99

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

Origin and Breeding History of S42-H1

In the summer of 1991 the Novartis Seeds, Inc. (formerly Northrup King Co.) breeding group at St. Joseph, IL made the cross '9303' x 'A4715' from which the variety S42-H1 is derived. Cultivar 9303 is a commercial cultivar marketed by Pioneer Hi-Bred International, Inc. A4715 is a commercial cultivar marketed by Monsanto Global Seed Company.

The F1 and F2 generations were grown at the Novartis Seeds, Inc., Research Center near Kekaha, Kauai, HI in the winter of 1991-92. The F3 generation was grown at St. Joseph in the summer of 1992; the F4 and F5 in Kekaha in the winter of 1992-93, and the F6 at St. Joseph in the summer of 1993. The F2 through F5 generations were advanced using a modified system of single seed descent. Single F6 plants were harvested in the fall of 1993 and threshed individually. The progeny from these plants were yield tested in a preliminary yield trial in the summer of 1994. One of these, designated J335752, was chosen for advancement. J335752 was tested in extensive replicated trials in the central and mid-southern United States from 1995 through 1998 and found to perform well compared to other early Maturity Group 4 varieties. It was tested in the greenhouse at the Novartis Seeds, Inc. Research Center at Bay, AR, for resistance to *Phytophthora sojae* and found to have no major genes for resistance. It was also tested in the greenhouse at Bay for resistance to Races 3 and 14 of *Heterodera glycines* and found to be resistant. It was also found to have purple flowers, tawny pubescence, brown pod walls, and seed with yellow seed coats and brown hila (may contain up to 2% other hilum color). During 1998 it was tested under the experimental designation X9842, and based on its yield superiority and disease resistance, it was released in 1999 as S42-H1.

During the winter of 1995-96, 500 seeds of S42-H1 were planted in Kekaha. This increase was rogued for flower, pubescence, and pod color, and 100 single plants were harvested and threshed individually. The seed from each plant was confirmed to have brown hila, and the progeny planted at St. Joseph as progeny rows in the summer of 1996. This increase was rogued carefully at flowering and maturity, and any rows with off-type plants were removed. Uniform rows conforming to the variety description were then bulk harvested to produce Pre-breeder seed. The seed was planted near the Novartis Seeds, Inc. Research Center at Washington, IA, in 1997 to produce Breeder Seed. This increase was rogued carefully at flowering and maturity and found to be uniform.

Foundation seed of S42-H1 was produced by Novartis Seeds, Inc. in the summer of 1998 and found to meet Novartis Seeds, Inc. standards for Foundation Seed.

S42-H1 is uniform and stable within a purity level of 99% (98% for hilum color). During the four years of testing and three years of seed increase, we have observed no variants. Any off-type plants removed from increase fields were assumed to have arisen from admixture or out-crossing. Varietal purity will be maintained using progeny rows as needed for the life of the variety.

Statement of Distinctness for the Variety S42-H1

Soybean variety S42-H1 is most like the varieties S43-B5, A4138, and CX450c. It can be differentiated from all three varieties on the basis of pod color. S42-H1 has brown pods while S43-B5, A4138, and CX450c have tan pods. S42-H1 can further be differentiated from S43-B5 and A4138 on the basis of flower color. S42-H1 has purple flowers while S43-B5 and A4138 have white flowers.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705EXHIBIT C
(Soybean)OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) CURRENTLY SYNGENTA SEEDS (bt: 3/26/2002) Novartis Seeds, Inc.	TEMPORARY DESIGNATION	VARIETY NAME S42-H1
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Attn: John Thorne 510 N 12th Avenue Washington, Iowa 52353		FOR OFFICIAL USE ONLY PVPO NUMBER

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,).

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

bt: Corrected per applicant's permission on 3/26/2002

6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a)2 = Type B (SP1^b)

9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

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☐ 2

1 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 2

1 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 2

1 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

☐ 7

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

Subgroup 2 (information added per applicant's permission on 3/26/2002 = bt)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

☐

Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

☐

Bacterial Blight (*Pseudomonas glycinea*)

☐

Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

☐ 1

Brown Spot (*Septoria glycines*)

Frogeye Leaf Spot (*Cercospora sojae*)

☐

Race 1

☐

Race 2

☐

Race 3

☐

Race 4

☐

Race 5

☐ 1

Other (Specify)

Common Arkansas Races

☐

Target Spot (*Corynespora cassiicola*)

☐

Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)

☐

Powdery Mildew (*Microsphaera diffusa*)

☐ 1

Brown Stem Rot (*Cephalosporium gregatum*)

Moderate Tolerance

☐ 2

Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

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19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

9900315

FUNGAL DISEASES: (Continued)

☐ Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)

☐ Purple Seed Stain (*Cercospora kikuchii*)

☐ Rhizoctonia Root Rot (*Rhizoctonia solani*)

Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)

☒ Race 1 ☒ Race 2 ☒ Race 3 ☒ Race 4 ☐ Race 5 ☐ Race 6 ☒ Race 7

☐ Race 8 ☐ Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

☐ Bud Blight (Tobacco Ringspot Virus)

☐ Yellow Mosaic (Bean Yellow Mosaic Virus)

☐ Cowpea Mosaic (Cowpea Chlorotic Virus)

☐ Pod Mottle (Bean Pod Mottle Virus)

☐ Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode (*Heterodera glycines*)

☐ Race 1 ☐ Race 2 ☒ Race 3 ☐ Race 4 ☒ Other (Specify) Race 14

☐ Lance Nematode (*Hoplolaimus Colombus*)

☐ Southern Root Knot Nematode (*Meloidogyne incognita*)

☐ Northern Root Knot Nematode (*Meloidogyne Hapla*)

☐ Peanut Root Knot Nematode (*Meloidogyne arenaria*)

☐ Reniform Nematode (*Rotylenchulus reniformis*)

☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

☐ Iron Chlorosis on Calcareous Soil

☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

☐ Mexican Bean Beetle (*Epilachna varivestis*)

☐ Potato Leaf Hopper (*Empoasca fabae*)

☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	S43-B5	Seed Coat Luster	
Leaf Shape	S46-W8	Seed Size	AG4401
Leaf Color	S43-B5	Seed Shape	
Leaf Size	S43-B5	Seedling Pigmentation	S42-K2

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	273	3.5	91	6	12	42.9	20.1	15.2	
S43-B5 Name of Similar Variety	275	3.7	90	7	10	44.1	20.1	16.7	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) <i>Syngenta Seeds (BT: 3/26/2003)</i> <i>Novartis Seeds, Inc.</i>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME S42-H1
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) P.O. Box 959 Minneapolis, MN 55440	5. TELEPHONE (include area code) 612-593-7333	6. FAX (include area code) 612-593-7801 7. PVPO NUMBER 9900315

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.

☒ YES

☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company?

If no, give name of country _____

☒ YES

☐ NO

10. Is the applicant the original breeder? If no, please answer the following:

☒ YES

☐ NO

a. If original rights to variety were owned by individual(s):

Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country _____

☐ YES

☐ NO

b. If original rights to variety were owned by a company:

Is the original breeder(s) U.S. based company? If no, give name of country _____

11. Additional explanation on ownership (If needed, use reverse for extra space):

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter.

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